

independent claim.

The Office Action rejected Claims 3, 5, 11, 13, 19, 21, 27, 29, and 35 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,880,781 (Udagawa et al.). Claims 7, 9, 15, 17, 23, 25, 31, and 33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Udagawa et al. in view of the article "HDTV Single-Chip CCD Color Camera" (Tanaka et al.). Finally Claim 36 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Udagawa et al. Cancellation of Claims 11 and 27 renders their rejections moot. Applicants submit that independent Claim 3, together with the claims dependent thereon, are patentably distinct from the cited prior art for at least the following reasons.

The aspect of the present invention set forth in Claim 3 is directed to an image pickup device. The device includes a color filter array, which is comprised of color filters arranged in horizontal and vertical directions, and a plurality of pixels arranged in the horizontal and vertical directions, respectively corresponding to the color filters.

A plurality of vertical read-out units of the device is provided for a plurality of pixels arranged in the vertical direction. The plurality of vertical read-out units reads out signals from the plurality of pixels arranged in the vertical

direction. A horizontal read-out unit of the device reads out sequentially the signals from the plurality of vertical read-out units in the horizontal direction.

The device also includes an output unit, which outputs sequentially the signals from the horizontal read-out unit, and a control unit, which divides the plurality of pixels on a unit basis of a predetermined number of lines that includes a plurality of first lines and a plurality of second lines. The control unit also adds the signals of pixels of the plurality of first lines and the signals of pixels of the plurality of second lines, in order to control the pixels of the predetermined number of lines so as to generate one kind of color difference signal.

One important feature of Claim 3 is that the image pickup device divides the plurality of pixels into units of a predetermined number of lines, which include a plurality of first lines and a plurality of second lines. Signals of pixels of the plurality of first lines and signals of pixels of the plurality of second lines are added in order to control the pixels of the predetermined number of lines to generate one kind of color difference signal.

Udagawa et al. relates to a color filter array for an interline CCD, in which an operation is performed to thin-out pixels in order to shorten the reading time of the pixels.

The Office Action states that Udagawa et al. discloses the vertical read-out units and the horizontal read-out unit of Claim 3 in Fig. 6, and discloses the control unit of Claim 3 in Figs. 1 and 2. Further, the Office Action asserts that the plurality of first lines of Claim 3 is equivalent to the C1 and M1 carriers of Udagawa et al., and that the plurality of second lines of Claim 3 is equivalent to the Y2 and G2 carriers of Udagawa et al. Applicants submit, however, that Fig. 2 of Udagawa et al. teaches the thinning out of the Y2 and G2 carriers. That is, according to the scenario proposed by section 1 of the Office Action, Udagawa et al. teaches that the plurality of second lines (Y2 and G2) is thinned.

Nothing in Udagawa et al. is believed to teach or suggest the adding of signals to generate a color difference signal. In particular, nothing in Udagawa et al. is believed to teach or suggest an image pickup device with a control unit that adds "the signals of pixels of the plurality of first lines and the signals of pixels of the plurality of second lines, in order to control pixels of the predetermined number of lines so as to generate one kind of color difference signal," as recited in Claim 3. Accordingly, Applicants submit that Claim 3 is not anticipated by Udagawa et al., and respectfully request withdrawal of the rejection under 35 U.S.C. § 102(e).

A review of the other art of record has failed to reveal anything that, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as applied against independent Claim 3. Therefore, Claim 3 is respectfully submitted to be patentable over the art of record.

The other rejected claims in this application depend from Claim 3 and, therefore, are submitted to be patentable for at least the same reasons as discussed above. Since each dependent claim is also deemed to define an additional aspect of the invention, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

This Amendment After Final Action is believed clearly to place this application in condition for allowance and, therefore, its entry is believed proper under 37 C.F.R. § 1.116. Accordingly, entry of this Amendment After Final Action, as an earnest effort to advance prosecution and reduce the number of issues, is respectfully requested. Should the Examiner believe that issues remain outstanding, it is respectfully requested that the Examiner contact Applicants' undersigned attorney in an effort to resolve such issues and advance the case to issue.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York Office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address listed below.

Respectfully submitted,

  
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